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## Cooperative Learning: Theory, Principles, and Techniques

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### ABSTRACT
*This conference paper discusses the use of cooperative learning (CL) in second language (L2) instruction. After two brief definitions of CL, key areas discussed in the paper are: a) how CL relates to theories of L2 acquisition, b) CL principles, and c) some CL techniques and lesson plan considerations when using CL in L2 instruction. An appendix provides a list of websites on CL.*

### Definitions of Cooperative Learning
First, here are some definitions of cooperative learning (also known as collaborative learning):

1. [T]he instructional use of small groups so that students work together to maximize their own and each other's learning (Johnson & Johnson, 1993, p. 9).

2. Principles and techniques for helping students work together more effectively (Jacobs, Power, & Loh, 2002, p. 1).

The point is that cooperative learning involves more than just asking students to work together in groups. Instead, conscious thought goes in to helping students make the experience as successful as possible.

### SLA Theories and CL
Many theories of SLA (Second Language Acquisition) and general education can be seen as supportive of the use of CL in L2 instruction. Below are some theoretical considerations often found in the literature on L2 instruction.

### The Input Hypothesis
The Input Hypothesis posits that SLA is driven by comprehensible input (Krashen & Terrell, 1983). In other words, we acquire language when we understand input that we hear or read. In contrast, when the input is so far above our current level of L2 proficiency that it is not comprehensible, that input doesn't contribute to SLA.

Input from groupmates may be more likely to be comprehensible, as group members' language levels may be roughly equal. However, the question arises as to whether this often imperfect peer input will lead to students picking up each other's errors. While acknowledging the validity of this concern, Krashen and Terrell (1983) argue that on

balance, peer input is useful: "our experience is that interlanguage [intermediate forms of the L2] does a great deal more good than harm, as long as it is not the only input the students are exposed to. It is comprehensible, it is communicative, and in many cases, for many students it contains examples of i+1 [language slightly above students' current level of competence]" (p. 97).

**The Interaction Hypothesis**
The Interaction Hypothesis (Hatch, 1978a; Long, 1981) highlights the role of social interaction in increasing the amount of comprehensible input that students receive. This interaction includes students asking for help when they do not understand input. Perhaps, the collaborative setting in groups and the trust that can grow among groupmates make it more likely that students will have opportunities to repair comprehension breakdowns.

**The Output Hypothesis**
The Output Hypothesis (Swain, 1985) states that while comprehensible input is necessary for L2 learning, learners also need to speak and to write, i.e., produce output, in their L2. Clearly, CL offers students many opportunities for output. Indeed, as we will discuss later when considering the CL principle of Simultaneous Interaction, when working in groups, student output can increase dramatically.

**Sociocultural Theory**
In recent years, second language educators (for example, Lantolf, 2000) have explored links between Sociocultural Theory (SCT) and L2 learning. This perspective highlights how L2 learners mediate learning in accordance with context (including peers) and experience with others. As Newman and Holtzman (1993) explain:
Vygotsky's [the most influential SCT scholar] strategy was essentially a cooperative learning strategy. He created heterogeneous groups of … children (he called them a collective), providing them not only with the opportunity but the need for cooperation and joint activity by giving them tasks that were beyond the developmental level of some, if not all, of them ( p. 77).

**Individual Differences**
One central belief of current second language pedagogy is that learners differ from one another in important ways (Robinson, 2002). One area of difference lies in the tendency of some learners to prefer to learn in social settings. All learners need to know how to succeed in such settings, and CL provides opportunities for students to develop and practice the strategies they need to work with others.

**Learner Autonomy**
Modern pedagogy seeks to help learners become more independent, capable of being and keen to become lifelong learners. Thus, the concept of learner autonomy has risen to prominence (Wenden, 1991). Promoting learner autonomy means that learners have a role in planning, controlling, and evaluating their own learning. Group activities supply one means of moving students away from dependence on teachers.

## Cooperative Learning Principles

Many principles have been proposed for cooperative learning. Below is one list of eight such principles.

1. **Heterogeneous Grouping.** This principle means that the groups in which students do cooperative learning tasks are mixed on one or more of a number of variables including sex, ethnicity, social class, religion, personality, age, language proficiency, and diligence.

2. **Collaborative Skills.** Collaborative skills, such as giving reasons, are those needed to work with others. Students may lack these skills, the language involved in using the skills, or the inclination to apply the skills. Most books and websites on cooperative learning urge that collaborative skills be explicitly taught one at a time.

3. **Group Autonomy.** This principle encourages students to look to themselves for resources rather than relying solely on the teacher. When student groups are having difficulty, it is very tempting for teachers to intervene either in a particular group or with the entire class. We may sometimes want to resist this temptation, because as Roger Johnson writes, "Teachers must trust the peer interaction to do many of the things they have felt responsible for themselves" (http://www.clcrc.com/pages/qanda.html).

4. **Maximum Peer Interactions.** In classrooms in which group activities are not used, the normal interaction pattern is that one person speaks at a time, either the teacher or a student selected by the teacher. In contrast, when groups of 2-4 students cooperate, we maximize the quantity of peer interactions. When students work together on thinking tasks, when they elaborate on their answers and ideas and when they utilize cooperative skills, we maximize the quality of peer interactions.

5. **Equal Opportunity to Participate.** A frequent problem in groups is that one or two group members dominate the group and, for whatever reason, impede the

participation of others. Cooperative learning offers many ways of promoting more equal participation among group members by attempting to structure interaction so that all group members have chances to participate.

**6. Individual Accountability.** When we try to encourage individual accountability in groups, we hope that everyone will try to learn and to share their knowledge and ideas with others.

**7. Positive Interdependence.** This principle lies at the heart of CL. When positive interdependence exists among members of a group, they feel that what helps one member of the group helps the other members and that what hurts one member of the group hurts the other members. It is this "All for one, one for all" feeling that leads group members to want to help each other, to see that they share a common goal.

**8. Cooperation as a Value.** This principle means that rather than cooperation being only a way to learn, i.e., the *how* of learning, cooperation also becomes part of the content to be learned, i.e., the *what* of learning. This flows naturally from the most crucial cooperative learning principle, positive interdependence. Cooperation as a value involves taking the feeling of "All for one, one for all" and expanding it beyond the small classroom group to encompass the whole class, the whole school, on and on, bringing in increasingly greater numbers of people and other beings into students' circle of ones with whom to cooperate.

### A Few CL Techniques

More than 100 CL techniques have been developed (see Jacobs, Power, & Loh, 2002; Sharan, 1994 and the websites in the appendices to learn more of these). Below, three simple CL are described. Simple is good, i.e., what makes an activity challenging and exciting are the topic and the task more so than the CL technique.

**1. Circle of Speakers**

a. In groups of 2-4, students take turns to speak. Several such rotating turns can be taken.

b. Students listen as their partner(s) speak and perhaps take notes, ask questions, or give feedback.

c. The teacher randomly chooses some students and asks them to tell the class what their partner(s) said.

d. This technique can also be done with students taking turns to write, or they can write and speak at each turn.

## 2. Write-Pair-Switch

   a. Each student works alone to write answers.

   b. In pairs, students share answers.

   c. Students switch partners and share their former partner's ideas with their new partner.

## 3. Question-and-Answer Pairs

   a. Ss work alone to write one or more questions.

   b. They write answers to their questions on a separate sheet of paper.

   c. Ss exchange questions but not answers.

   d. After Ss have answered their partner's questions, they compare answers.

### CL Lesson Plan Considerations

Cooperative learning represents a major change from teacher-fronted instruction and, therefore, raises new issues that educators need to consider (Cohen, 1994). At the same time, using CL does not mean abandoning teacher-fronted mode; it means combining various modes of learning. Below are five issues that many L2 teachers raise when they undertake or even contemplate undertaking CL.

### 1. Difficulty level

Difficulty level of activities may be the largest stumbling block to successful CL use. Especially when beginning with CL, the task should be an easily doable one, so that students can feel comfortable and confident working in groups. Ideas to consider here include starting CL with easy tasks, carefully clarifying procedures so that students know what they will be doing, providing examples of what groups are being asked to do, and monitoring groups so that teachers can provide help when needed.

### 2. Sponge activities

Often some groups or group members will finish before others. It may be useful for teachers to be prepared with extra activities to "soak up" this extra time, in a way similar to that in which a sponge soaks up extra water. Some ideas include doing homework or extensive reading, helping other individuals or groups who have not yet finished, comparing answers with others who have finished, and doing an enrichment activity such as creating similar tasks as is done in Question-and-Answer Pairs.

### 3. Groups that don't get along

CL groups are often selected by the teacher to promote heterogeneity. Thus, students may initially feel uncomfortable with their groupmates who they might not have known before or who perhaps they knew and did not like. As a result, groupmates may not get along with each other. Some ideas for addressing this include helping groups enjoy initial success, explaining the benefits of heterogeneity, doing teambuilding activities to promote trust and to help students get to know each other, and teaching collaborative skills.

### 4. Noise level

Some teachers worry that the noise level may be higher than acceptable during CL activities. Some ideas to consider in this regard include accepting "good" noise, arranging the room so that students sit close together, asking students to monitor the sound level, and using writing instead of speaking.

### 5. Use of the L2

Students are often tempted to use their L1 when working in groups. We should discuss with students what constitutes appropriate L2 use. Also, students need sufficient language support, such as dictionaries (and other reference sources) and pre-task examples. Referring back to point one in this section, when seeking to promote proper L2 use, we need to consider whether the level of task difficulty is appropriate. One more idea is to use heterogeneous groups with at least one relatively more proficient student in each group.

## Conclusion

Cooperative learning, according to the research (see Johnson & Johnson, 1999; Johnson, Johnson, & Stanne, 2000; Slavin, 1995 for reviews), offers many potential benefits beyond enhanced L2 acquisition. These benefits include increased self-esteem, greater liking for school, enhanced inter-ethnic ties, and improved complex thinking. Furthermore, CL offers one small ray of hope that we can move away from the all-too-present unhealthy forms of conflict and competition that plague our world today (Kohn, 1994).

However, using CL may be difficult at first. It requires some initial thought, some long-term vision, and some persistence to succeed. Often, students may not be familiar with or skilled at working together. Fortunately, the CL literature allows us to learn from the trial-and-error and effective practices of educators who have come before us. With this assistance, we and our students can come to enjoy and benefit from cooperation in the classroom and beyond (Sapon-Shevin, 1999).

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**Appendix – Websites on CL**

**1. International Association for the Study of Cooperation in Education (IASCE)**. Links to a site with lots of papers on CL and computers
http://www.iasce.net

**2. Success for All**
The Success for All Foundation (SFAF) is a not-for-profit organization dedicated to the development, evaluation, and dissemination of proven reform models for preschool, elementary, and middle schools, especially those serving many children placed at risk. Cooperative learning is a key component of their model. The foundation was founded by Robert Slavin and his colleagues.
http://www.successforall.net/

**3. Cooperative Learning Center at the University of Minnesota (USA)**
The Center offers research updates, a Q & A, and many publications and other materials on CL. Co-Directors: Roger T. Johnson and David W. Johnson. http://www.co-operation.org

**4. Program for Complex Instruction, Stanford University (USA).** This site features the work of Elizabeth Cohen, Rachel Lotan, and their colleagues which has focused on the sociology of cooperative learning groups, in particular the treatment of status differences among group members.
http://www.stanford.edu/group/pci/

**5. The Jigsaw Classroom**
This site contains information on Jigsaw, one of the oldest and best-known cooperative learning techniques. Among the features of the site are history about Jigsaw, a description of how to implement the technique, troubleshooting ideas, a list of books and articles about Jigsaw, and information of recent related work by Eliot Aronson, one of the originators of the technique.
http://www.jigsaw.org/index.html

**6. Richard Felder's Homepage**
Richard teaches engineering at North Carolina State (USA) University. Lots of good stuff here related to CL.
http://www2.ncsu.edu/unity/lockers/users/f/felder/public/RMF.html

**7. Ted Panitz's Homepage**
Ted teaches mathematics at Cape Cod (USA) Community College. His page includes two E-books, one on CL and one on Writing Across the Curriculum. Also included are some of the wide-ranging internet discussions that Ted has put together across several Lists.
http://home.capecod.net/~tpanitz

**8. ERIC**
If you go to http://searcheric.org/ and type in 'cooperative learning', you will get over 1300 hits. That should keep you busy for a while.